

### **Remarks / Arguments**

Claims 1- 5 are pending in this application. Claims 1- 5 are rejected. With this Amendment, Claims 1-5 are cancelled and new Claim 6 is presented.

In view of these amendments the applicants believe that this Claim 6 is allowable.

If however, the Examiner believes that there are any unresolved issues requiring adverse action in any of the claims now pending in the application, it is requested that the Examiner telephone John F. Moran, ESQ. At 973-724-6590, so that arrangements may be made for resolving such issues as expeditiously as possible.

### **Claim Rejections – 35 U.S.C. § 112**

Claims 1 – 5 are rejected under the provisions of 35 U.S.C. § 112 as being indefinite. In particular, the Examiner noted that the scope of the claims is inconsistent. New Claim 6 corrects this deficiency.

### **Claim Rejections – 35 U.S.C. § 103**

Claims 1 – 5 are rejected under the provisions of 35 U.S.C. § 103 as being unpatentable over United States Patent 5,602,361 to Hamilton and Bagline, in view of United States Patent 6,228,192 to Neidert, Scheffee, Bowman, and Martin, and United States Patent 6,676,618 to Manning and Prezelski.

Since Claims 1-5 have been cancelled by this amendment, this rejection is now moot.

The applicants however will discuss this art in the context of new Claim 6.

As presently constituted, Claim 6 is directed to a new propellant formulation having the following composition: 90% by weight Nitrocellulose (12.6% N which is a mixture of 13.4% and 11.3% Nitrocellulose); 7% BuNENA; 1% ATEC; and 2% Ethyl Centralite.

As correctly noted by the Examiner in a previous office action the prior art does teach the use of one or more of the components recited in Claim 6.

In particular, the Examiner is certainly correct that Neidert et al teaches the use of BuNena as an energetic plasticizer for nitrocellulose.

Notwithstanding this teaching however, the applicants believe that their formulation is not rendered obvious by the cited combination of references because – and the Examiner can surely recognize – the applicants of the instant application have succeeded in plasticizing their formulation with a remarkably small wt.% amount of plasticizer namely only 7%.

In sharp contrast, the BuNena plasticizer used in conjunction with nitrocellulose in the Neidert et al reference is in the range of 20 to 50 wt. %.

The applicants believe that this is particularly significant as while energetic plasticizers such as BuNena typically enhance performance, such performance increase comes with an accompanying increase in sensitivity.

With respect to the Manning et al reference, the Examiner is correct in that reference does teach a 12.6% nitrocellulose and a mixture of 12.6% and 13.35% to produce an average of 13.05%.

As recited in Claim 6 however – and a fine point of distinction - the applicants utilize 12.6% nitrocellulose formed by combining 13.4% nitrocellulose and 11.3% nitrocellulose and not the individual 12.6% or 13.05% combination disclosed in Manning.

More importantly however, the applicants submit that the cited combination of references would actually teach away from the claimed invention.

In particular, while the Examiner is certainly correct that Neidert does teach the substitution of BuNena for nitroglycerine, neither that reference nor the others teach or suggest that the amount of plasticizer (BuNena) can be as low as 7% of the total weight of the formulation.

In fact, all of the cited references teach an amount significantly more.

In particular, the cited Hamilton reference teaches a formulation having 20% nitroglycerine. Manning teaches a formulation having a plasticizer of 34% of the formulation, while Neidert teaches nitrate ester plasticizers of 20 to 50 wt %.

Even accepting the direct substitution of the BuNena for nitrocellulose as taught by Neider and relied upon by the Examiner, the resulting formulations from the combination

would all have in excess of 20 wt. % BuNena – in sharp contrast to the only 7% now taught and claimed.

Accordingly, the applicants submit that its inclusion in a formulation such as that now claimed – is not obvious in view of the cited references – in any combination. In that regard the material composition now claimed produces a surprising result – having both reduced sensitivity and increased energy with a remarkably small amount of energetic plasticizer BuNena.

Accordingly, the applicants respectfully request the Examiner to withdraw the rejections under 35 U.S.C. § 103.

**Conclusion:**

The applicants submit that the claim now present in the application fully comply with the provisions of 35 U.S.C. § 112 and 35 U.S.C. § 103 and is therefore allowable. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

Respectfully submitted,

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**CERTIFICATE OF TRANSMISSION UNDER 37 C.F.R. 1.8(a)**

I hereby certify that this correspondence is being transmitted to the United States Patent and Trademark Office on October 7, 2008.

s/Lori Andrews/

Signature

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